

What is claimed is:

Claim 1: System for analysing a sample to be examined comprising
a test field containing a reagent which on contact, interacts with an analyte
contained in a sample resulting in an optically detectable change in the test field,
at least one light-conducting element having a first distal end which is
arranged in a region of the test field and
a second proximal end into which light can be coupled such that light is
conducted from the second end to the test field and is conducted away again from
the test field by the same or another light-conducting element, and
a lancet which is at least partially surrounded by the light-conducting
element having a lancet tip which is located in the region of the distal end and of the
test field in such a manner that the lancet tip extends beyond the distal end of the
light guide and beyond the test field during a lancing process.

Claim 2: System as claimed in claim 1, in which the reagent in the test field
reacts essentially irreversibly with the analyte.

Claim 3: System as claimed in claim 1, which is suitable only for single use.

Claim 4: System as claimed in claim 1, in which the first distal end of the
light-conducting element is permanently connected to the test field.

Claim 5: System as claimed in claim 1, in which the first distal end of the
light-conducting element is reversibly positioned at the test field and can be
removed again from the test field.

Claim 6: System as claimed in claim 5, in which the test field is positioned on
a separate carrier and the carrier is movably guided below the light-
conducting element.

- Claim 7: System as claimed in claim 1, which has a plurality of test fields.
- Claim 8: System as claimed in claim 1, which has a plurality of lancets.
- Claim 9: System as claimed in claim 1, in which the lancet is at least partially surrounded by the light-conducting element.
- Claim 10: System as claimed in claim 9, in which the lancet is movably guided within a hollow light-conducting fibre.
- Claim 11: System as claimed in claim 1, in which the light-conducting element is at least partially surrounded by the lancet.
- Claim 12: System as claimed in claim 11, in which the light-conducting element is arranged within a hollow lancet.
- Claim 13: System as claimed in claim 1, in which the lancet and the light-conducting element are arranged concentrically relative to one another.
- Claim 14: System as claimed in claim 1, in which the lancet and the light-conducting element are arranged in direct vicinity to one another in a plane perpendicular to the lancing direction.
- Claim 15: System as claimed in claim 1, in which the lancet tip is embedded in a sterile protection.
- Claim 16: System as claimed in claim 1, which is suitable for determining a glucose concentration from blood.

Claim 17: System as claimed in claim 1, which can be optically contacted with an analytical unit of an analytical instrument such that light is coupled into or out of the light-conducting element.

Claim 18: System as claimed in claim 1 positioned in a lancing device.

Claim 19: System as claimed in claim 18, in which the lancing device comprises an analytical unit which is optically contacted with the light-conducting element in such a manner that light can be coupled into the light-conducting element and light conducted away from the test field can be detected by the analytical unit.

Claim 20: System as claimed in claim 18, in which the lancing device can be coupled to an analytical unit such that light can be coupled into the light-conducting element and the light conducted away from the test field can be detected by the analytical unit.

Claim 21: System as claimed in claim 18, in which the lancing device comprises a drive unit for the lancet.

Claim 22: System as claimed in claim 18, in which the lancing device contains a drive unit for the light-conducting element.

Claim 23: System as claimed in claim 18, in which the lancing device contains a drive unit for transporting the test element.

Claim 24: System as claimed in claim 18, which is positioned in a magazine of the lancing device in which a plurality of systems is located.

Claim 25: System for analysing a sample to be analysed comprising

a test field containing a reagent which on contact, interacts with an analyte contained in a sample resulting in an optically detectable change in the test field,

at least one light-conducting element having a first distal end which is permanently connected to the test field and

a second proximal end into which light can be coupled such that light is conducted from the second end to the test field and is conducted away again from the test field by the same or another light-conducting element, and

a lancet having a lancet tip which is located in the region of the distal end and of the test field in such a manner that the lancet tip extends beyond the distal end of the light guide and beyond the test field during a lancing process.

Claim 26: System as claimed in claim 25, in which the reagent in the test field reacts essentially irreversibly with the analyte.

Claim 27: System as claimed in claim 25 which is suitable only for single use.

Claim 28: System as claimed in claim 25 in which the first distal end of the light-conducting element is reversibly positioned at the test field and can be again removed from the test field.

Claim 29: System as claimed in claim 28, in which the test field is positioned on a separate carrier and the carrier is movably guided below the light-conducting element.

- Claim 30: System as claimed in claim 25, which has a plurality of test fields.
- Claim 31: System as claimed in claim 25, which has a plurality of lancets.
- Claim 32: System as claimed in claim 25, in which the light-conducting element is at least partially surrounded by the lancet.
- Claim 33: System as claimed in claim 32, in which the light-conducting element is arranged within a hollow lancet.
- Claim 34: System as claimed in claim 25, in which the lancet and the light-conducting element are arranged concentrically relative to one another.
- Claim 35: System as claimed in claim 25, in which the lancet and the light-conducting element are arranged in direct vicinity to one another in a plane perpendicular to the lancing direction.
- Claim 36: System as claimed in claim 25, in which the lancet tip is embedded in a sterile protection.
- Claim 37: System as claimed in claim 25, which is suitable for determining a glucose concentration from blood.
- Claim 38: System as claimed in claim 25, which can be optically contacted with an analytical unit of an analytical instrument such that light is coupled into or out of the light-conducting element.
- Claim 39: System as claimed in claim 25, which is used in a lancing device.

- Claim 40: System as claimed in claim 39, in which the lancing device comprises an analytical unit which is optically contacted with the light-conducting element in such a manner that light can be coupled into the light-conducting element and the light conducted away from the test field can be detected by the analytical unit.
- Claim 41: System as claimed in claim 39, in which the lancing device can be coupled to an analytical unit such that light can be coupled into the light-conducting element and the light conducted away from the test field can be detected by the analytical unit.
- Claim 42: System as claimed in claim 39, in which the lancing device comprises a drive unit for the lancet.
- Claim 43: System as claimed in claim 39, in which the lancing device contains a drive unit for the light-conducting element.
- Claim 44: System as claimed in claim 39, in which the lancing device contains a drive unit for transporting the test element.
- Claim 45: System as claimed in claim 39, which is positioned in a magazine of the lancing device in which a plurality of systems is located.